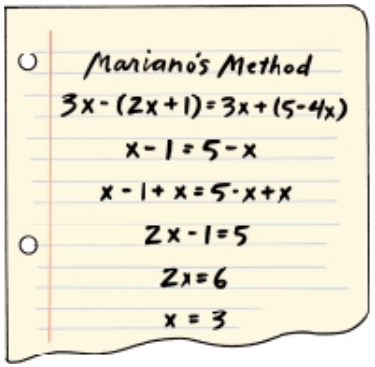
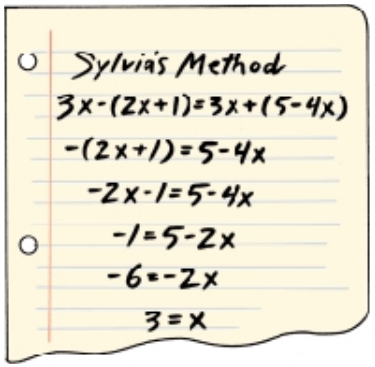
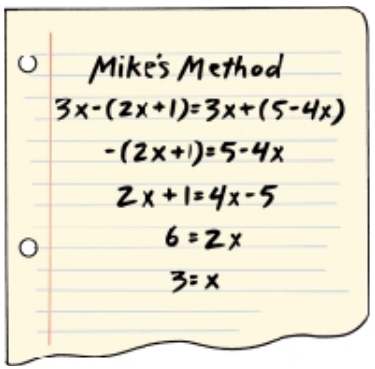
A TEACHER REFLECTS







Using Workmats

Since this phase focused on solving equations, we went through many workmats. I duplicated enough workmats so that I could give two or three to each student. I also three-hole-punched the workmats so that students could keep them in their binders. Since there were always one or two students without a workmat, I had a few copies laminated and kept these in the classroom. If extras were needed, I asked students to sketch their own workmat on a blank sheet of paper.

Discussing Equation Solving

We had many productive discussions on equation solving. One of the best discussions arose after students had solved $3x - (2x + 1) = 3x + (5 - 4x)$. I asked several students to present their methods to the class.

Mariano solved the equation by first simplifying each side of the equation. He then added x to both sides and eventually wound up with $2x = 6$, and $x = 3$.

Sylvia was next. She solved the equation in a completely different way. She noticed that there was a $3x$ on both sides of the equation and started by canceling those. I asked her how she knew she could do that, and I was glad when she said it was the same as subtracting $3x$ from both sides.

Sylvia's next step was to distribute the minus sign through the parentheses. Then she added $2x$ to both sides of the equation. Towards the end of her calculation, she was left with $-6 = -2x$. While this last step looked harder than Mariano's, everyone agreed that Sylvia's method was valid and resulted in the same solution.

I asked the class if anyone solved the equation a different way.

Mike raised his hand and explained his method to the class. Like Sylvia, he started by canceling the $3x$ on both sides. Then he multiplied both sides of the equation by -1. This was considered a surprising step by most students, but it gave Mike a somewhat simpler equation to work with.

When we discussed the pros and cons of each method, students began to see the value in each of the methods. Knowing that there may be many different ways to solve an equation also gave students confidence to try out their ideas.